AV

Search Results

○ View By Title/Authors ◉ View Full Abstracts

Search Results for: "Noninvasive prenatal HLA typing" in "title Fields" with search type "Pertaining to" 119 matches found in 5453 abstracts

Full Abstract

☐ **[1728] Non-Invasive Prenatal HLA Typing of a Sibling Cord Blood Donor through Kinetic PCR Analysis of Maternal Plasma.**

William Reed, D. Z. Kong, T.-H. Lee, M. J. Cowan, M. P. Busch, L.A. Baxter-Lowe. Scientific Services, Blood Centers of the Pacific, San Francisco, CA, USA; Immunogenetics and Transplantation, Department of Surgery, University of California, San Francisco, CA, USA; Pediatric Bone Marrow Transplantation, University of California, San Francisco, CA, USA

Fetal DNA enters the maternal circulation during pregnancy and has been utilized for noninvasive prenatal diagnosis. Knowledge of fetal HLA type can be important if cord blood (CB) is being considered as a potential source of hematopoietic stem cells (HSC) for transplantation. We explored the feasibility of determining the paternally inherited HLA haplotype of a fetus through analysis of fetal DNA in the maternal circulation. A 5 year-old with acute leukemia was a candidate for HSC transplantation. Information regarding the HLA type of the fetus was desirable to assist with donor evaluation; an unrelated marrow donor and the sibling cord blood were being considered. Both parents and the 5 year old patient had been HLA typed using DNA-based methods. Blood was obtained from the mother at approximately 36 weeks gestation. DNA was isolated from maternal plasma and whole blood. Kinetic PCR, which has single copy sensitivity, with sequence-specific primers for paternal HLA-A, -B, and -DRB1 alleles was used to detect each possible paternal HLA type. Paternal alleles corresponding to one paternal haplotype were detected in plasma, but not in whole blood. Testing for the paternal alleles corresponding to the alternative haplotype were negative in both maternal plasma and whole blood. These findings demonstrated that the fetus shared at least 1 haplotype (the paternally inherited one) with the 5 year old sibling. The maternally inherited HLA haplotype, being identical to the genetic background of the maternal blood, could not be analyzed by these methods. Following birth, the baby's cord blood was typed using DNA-based methods and it was verified that the paternal HLA haplotype inherited by the fetus was identical to that inherited by the patient. To our knowledge, this represents the first successful Noninvasive prenatal HLA typing using maternal plasma as a source of paternally inherited DNA. This technique may improve the early determination of HLA compatibility between an unborn relative and a patient who requires HSC transplant and may facilitate the selection of sibling CB units for banking based on needed histocompatibility.

Keywords: Cord blood\ HLA typing\

Session Info. : Poster Session: Allogeneic Matched Related I (10:00 AM-6:00 PM)

☐ **[2801] Class I and II DNA-Based HLA Typing for Matched Unrelated Donor (MUD) Allogeneic Bone Marrow Transplantation (BMT) in Hematologic Malignancy Patients.**

Ronald Sobecks, Edward J. Ball, Lisa Rybicki, Matt Kalaycio, Steve Andresen, Brad Pohlman, Alan Lichtin, Elizabeth Kuczkowski, Karen Sands, Julie Curtis, Mary Serafin, Brian Bolwell. Bone Marrow Transplant Program, The Cleveland Clinic Foundation, Cleveland, OH, USA

DNA-based approaches for HLA typing have become an established method to identify